WebAIRS incident reporting in 2022

"We cannot fix what we do not know".

Anaesthesia has a long history of advocating for patient safety. Sir Robert Macintosh, a New Zealander based in Britain and the first professor of anaesthesia outside the US, first drew attention to fundamental failures in anaesthetic practice in the 1940s.

In an open letter published in the *British Journal of Anaesthesia*, he recommended that an independent anaesthetist with suitable qualifications analyse every anaesthetic death as soon as possible after its occurrence. Macintosh recognised that knowledge and investigations of such events would create a wealth of valuable information and ultimately would improve patient care and safety.

Since then, there have been many improvements in anaesthesia to which incident reporting has contributed. These include the development of alarms for disconnection and low inspired oxygen, advances in the gas piping and rotameters of anaesthetic machines, the use of pulse oximetry and end-tidal CO2 measurement, anaesthetic agent measurement and alarms, N2O safety measures, colour-coded syringe labelling and the introduction of the World Health Organization (WHO) Surgical Safety Checklist.

Incident reporting is based on learning from adverse events, ranging from near misses to catastrophic patient outcomes. Learning from experience is an essential part of every anaesthetist's training, but individual events may be less informative than information amalgamated from several similar incidents. In addition, the more reported events, the more likely detection of rare incidents becomes.

A near miss is an event that did not cause patient harm but had the potential to do so. Under reporting of near misses might lead to missing out on important information and opportunities to learn from these events and prevent some of this harm before it occurs. Near misses also happen much more often than events causing severe injury. Therefore, it follows that there is a much greater opportunity to detect and learn from the precursors of patient harm than from the small number of events that actually result in serious harm.

WebAIRS was created in 2009 and is the first web-based voluntary anaesthetic incident reporting system in Australia and New Zealand. Registered anaesthetists have the opportunity to voluntarily report incidents that occur during their care to the database.

Almost 10,000 incidents have been reported since 2009, and multiple case series and summaries of the webAIRS have been published in both peer-reviewed journals and in the magazine articles of ANZCA, the Australian Society of Anaesthetists and the New Zealand Society of Anaesthetists. Links are available on the webAIRS website. While this is a significant number of adverse events, one may assume that many incidents are not captured. In their latest report on safety and incident reporting in healthcare, WHO described underreporting of incidents as a particular concern. They assume that only 7-15 per cent of events are ever reported. Our own experience suggests that in Australia and New Zealand this might be close to 0.15 per cent.

While most of the incidents reported to webAIRS involve airway and respiratory issues, webAIRS provides a platform to collect incidents involving any aspect of anaesthesia care.

The main categories include assessment/documentation, infrastructure/system, medication, respiratory/airway, cardiovascular, neurological, other organ, medical device/equipment and miscellaneous/other. WebAIRS recognises that one incident may fall into more than one category – therefore, multiple category allocations per incident can be assigned to one incident. In addition, each category has further sub-categories, of which the reporter can choose all that apply for the incident.

Data entry is collected via tick boxes and non-mandatory narrative fields – therefore, the depth of the data analysis depends on the information provided by the reporters.

Over time it has been shown that most of the valuable information is found in the narrative fields. WebAIRS provides four different narrative boxes for each incident reported. The narrative field on the first page allows the description of the incident, and at the end of the reports, there are narrative fields to allow for reflection on contributing factors, alleviating factors and any additional information the reporter would like to add.

As all incidents are reported anonymously, the analysers cannot contact the individual reporter should the information be missing or unclear. It is therefore important to include as much detail as possible.

Anaesthesia colleagues across Australia and New Zealand are encouraged to use all webAIRS functions and report incidents ranging from near misses to major events across all areas of anaesthetic practice. Each reported incident collects continuing professional development points for the reporter – said incidents can be used on an individual level for a personal audit, a departmental level for morbidity and mortality meetings, and a bi-national level to improve patient safety.

Dr Yasmin Endlich on behalf of the ANZTADC Case Report Writing Group